King County
Department of Development and Environmental Services
Land Use Services Division
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SURFACE WATER DESIGN MANUAL (1998) CORE REQUIREMENT NO. 2 OFF-SITE ANALYSIS SUBMITTAL REQUIREMENTS

For alternate formats, call 206-296-6600.

The information herein is provided to assist consulting engineers in the preparation of a Level 1 off-site drainage analysis according to the *1998 King County Surface Water Design Manual* (SWDM). Detailed requirements for the analysis are contained within Sections 1.2.2 and 2.3.1.1 in the Design Manual. This summary provides clarification of the requirements and is not intended to replace any portion of the SWDM. Additional, further level of analysis may be required after the DDES review of the Level 1 analysis.

A. Introduction

Provide an overall description of the proposed project and include an evaluation of existing site conditions for terrain, vegetation, soil type and critical areas.

B. Task 1: Study Area Definition and Maps

1. Include a site map showing existing and proposed property lines.
2. Using the best available topographic map, depict the upstream tributary drainage areas to the site and to the downstream system. Also map the study area for both the downstream issues and resource review.
3. Include other visual resources such as vicinity maps, site plans, basin reconnaissance maps, aerial photographs, and wetland maps as necessary.
4. Identify on the maps any evidence of existing or predicted problems.
5. Map the downstream system, clearly identifying different drainage system components such as culverts, ditches and overland flow. This map can be prepared separately as part of Task 4 below.
6. The delineation of the downstream system must extend downstream of the proposed project discharge location to a point on the drainage system where the project constitutes 15% or less of the total tributary drainage area, but in no event less than 1/4 mile.
7. The size and specifications for all sub-basins and drainage components shall be clearly labeled. The scale for all mapping must be large enough to clearly present information regarding the drainage system.

C. Task 2: Resource Review

1. The resources shown on page 2-11 of the *1998 Surface Water Design Manual* shall be reviewed for existing potential problems upstream and one mile downstream of the project site.
2. List each resource and document any information pertaining to the site from each resource, noting existing and predicted problems. The resources are available from the Land Use Services Division of DDES or the Department of Natural Resources and Parks.
3. Include other relevant resources used such as Metro, Department of Fish and Wildlife, Department of Ecology and the U.S. Army Corps of Engineers.
4. Records of drainage complaints in King County are available by calling the Department of Natural Resources and Parks at 206-296-1900.

D. Task 3: Field inspection

1. Provide a detailed summary of the physical inspection for on- and off-site drainage systems, and investigate any problems reported or observed as outlined in the Design Manual.
2. Include the date and weather conditions at the time of inspection.
3. The field inspection must extend downstream of the proposed project discharge location to a point on the drainage system where the project constitutes 15% or less of the total tributary drainage area, but in no event less than 1/4 mile.

E. Task 4: Drainage System Description and Problem Descriptions

1. Provide a narrative description regarding drainage system components and downstream problem areas as outlined in the Design Manual.
2. Clearly summarize if the downstream includes any of the three defined problem types that require special attention per Code Requirement No. 2, pages 1-20.
3. Provide a completed Drainage System Table (Design Manual reference 8B) to address the conveyance components.
4. The information in the table should correlate to a drainage plan that clearly shows the components of the downstream conveyance system.
5. The narrative and description should correlate directly to the information provided on the maps and be specific to include information such as pipe sizes, channel characteristics and drainage structures.
6. Include a description of the proposed drainage facility design including water quality facilities and off-site improvements. Summarize the methodology and design standard that will be used for sizing the stormwater detention facility.
7. Provide a summary that discusses why the project will or will not aggravate existing downstream conditions or create new drainage problems.

F. Task 5: Mitigation

1. Include a recommendation regarding the need for a Level 2 or 3 off-site analysis.
2. Demonstrate that the project neither aggravates nor creates a problem as specified in the problem specific mitigation requirements set forth in Section 1.2.2.1.